

**WHAT IS CLAIMED IS:**

1. A method of removing non-condensing gas within a heat pipe, comprising:  
filling a predetermined amount of liquid working fluid into the heat pipe with an  
opening on a top end thereof;

5 heating the heat pipe to obtain the working fluid with a saturated temperature;  
maintaining the saturated temperature to have the working fluid being  
evaporated and boiled, such that the non-condensing gas within the heat pipe is  
discharged by vapor of the working fluid; and

10 sealing the opening when a predetermined amount of the vapor of the working  
fluid is discharged.

2. The method of Claim 1, wherein the saturated temperature indicates a  
boiling point of the working fluid.

3. The method of Claim 1, further comprising the step of reducing the size of  
the opening for discharging the non-condensing gas.

15 4. The method of Claim 1, wherein the working fluid is mildly evaporated to  
achieve more precise control of the sealed working fluid in the heat pipe by conducting  
heat to avoid too violent evaporation so that the liquid working fluid does not spit out  
of the heat pipe.

20 5. The method of Claim 1, wherein the working fluid is acceleratedly  
evaporated by conducting heat to have the liquid working fluid spits out of the heat  
pipe.

6. The method of Claim 1, further comprising the step of keeping a  
temperature around of the opening not less than the saturated temperature of the  
working fluid.

25 7. An apparatus for removing non-condensing gas within a heat pipe by  
filling a predetermined amount of working fluid into the heat pipe with an opening on  
a top end, heating the heat pipe to obtain the working fluid with a saturated  
temperature, maintaining the saturated temperature to have the working fluid being

evaporated and boiled so as to discharge the non-condensing gas, and sealing the opening when a predetermined amount of the vapor of the working fluid is discharged, the apparatus comprising:

a heater assembly providing the heat pipe installed therein, and including a

5 holder for holding the heat pipe to be positioned; and

a sealer unit located above the heat assembly, and including a clamping element and a driving mechanism to operate the clamping element.

8. The apparatus of Claim 7, wherein the heater assembly further includes a heater for controlling the heat conduction and the heat operation time to the heat pipe.

10 9. The apparatus of Claim 7, wherein the holder is modulized to be

disassembled from the heat assembly, and to be switched for various heat pipes with different sizes of the opening.

10. The apparatus of Claim 7, wherein the holder includes a fitting for various heat pipes with different sizes of the opening.

15 11. The apparatus of Claim 7, wherein the clamping element is modulized to be disassembled from the sealer unit, and to be switched for various heat pipes with different sizes of the opening.